

Massive prepatellar bursitis in post-polio residual paralysis: A case report

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ABSTRACT

We report a case of post-polio residual paralysis, an eighteen-year old girl who was ambulatory on all four limbs and presented to us with a massive pre-patellar bursitis on her left knee.

Key words: prepatellar bursitis, poliomyelitis

INTRODUCTION

Poliomyelitis still remains one of the leading causes of disability in children of the developing world. The residual paralytic stage presents to an orthopaedist various complications and sequelae like post-polio syndrome, instabilities, stress fractures, deformities of spine and extremities.²

We present an unusual complication of a massive bursitis, which impeded the surgical and orthotic management of our case.

CASE REPORT

An eighteen-year-old girl, a case of post-polio residual paralysis, came to our institution ambulating on all

four limbs. She incidentally had a huge swelling arising from her left knee. The swelling had started insidiously when she was ten years old and gradually increased over the years to attain the present size. The mechanical impediment with occasional pain and ulceration on its under surface had restricted her ambulation even on her all four limbs for the previous two years.

On examination, she had a flail right lower limb with a fixed flexion deformity of 60° at right knee. Her left lower limb had grade 4 muscle power at hip, grade 3 extensor power at knee and equinovalgus deformity of left ankle and foot, apart from the massive swelling at the knee.

The swelling was single, oval in shape and present over the anterior aspect of the left knee centering over the patella and measuring about 15x14 cm. The surface was predominantly smooth with some areas of lobulations and the skin was free from swelling. There were scars of old pressure sores on its under surface. It was non-tender on palpation, firm in consistency with some cystic areas in between (Fig.1). Radiological examination revealed a soft tissue mass with no evidence of calcification and not involving the knee joint (Fig. 2).

As a first stage procedure, she underwent excision of the swelling in toto after identifying the well-defined cleavage between the swelling and the patella.

The histopathological examination report confirmed our preoperative diagnosis of bursal cyst. After 3 months, she underwent posterior soft tissue release for correction of the fixed flexion deformity of

her right knee. She is now walking upright with a floor reaction orthosis on the left side and a KAFO with quadrilateral socket and drop lock knees on her right side.



Figure 1 Pre-operative photograph showing the prepatellar bursa.

DISCUSSION

Sac like structures called bursae (bursa: pouch or purse) are strategically situated to alleviate friction in parts of the body, which are prone to constant or repetitive loading.⁴ Hence they occur normally in the regions of the patella, the tip of the olecranon and the ischial tuberosity, where they cushion the movement of one part of the body with another. These bursae cannot be normally palpated. However, when they are subjected to repetitive load, they get enlarged and



Figure 2 Lateral radiograph showing the soft tissue swelling.

chronic bursitis develops. Such swellings are described as eponyms like housemaid's knee, student's elbow and tailor's bottom.⁵

Chronic non-infectious pre-patellar bursitis described as housemaid's knee and also seen in carpet layers³ is usually mild and with variable swelling. The literature has reference to massive chronic pre-patellar bursitis amongst the Hausa people of the Savannah region of Northern Nigeria, the cause of which is apparently related to the widespread practice of kneeling while grinding corn between two heavy stones causing chronic mechanical trauma.¹

The massive pre-patellar bursa in our case could have been due to a flail right lower limb with transmission of the whole body weight on to the left lower limb. The reduced muscle power of the left lower limb perhaps contributed in the transmission of most of the body weight through the bone and then on to the soft tissue cushioning her knee, like the prepatellar bursa and the skin. This friction and constant load on the soft tissues over a prolonged period during her quadripedal gait may have resulted in such a big swelling. The sheer size of the swelling was thus detrimental in halting her quadripedal gait, which was her sole mode of ambulation.

Thus highlighted is an unusual complication in the residual paralytic stage of polio, which was an impediment to the orthotic management of our case that nevertheless was amenable to a simple surgical procedure.

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